CAS Registry No.: 0 (Bacterial Proteins); 0 (Bacterial Toxins); 0 (Cytotoxins); 0 (DNA Probes); 0 (DNA, Bacterial); 0 (Enterotoxins); 0 (Hemolysins); 0 (Hlya protein); 0 (Shiga-like toxin I)

updated search 10/16/00 RP West DTA200

15/9/47
DIALOG(R)File 155:MEDLINE(R)

07681564 94066142
Detection of serum and faecal antibodies in haemorrhagic colitis caused by Escherichia coli O157.
Siddons CA; Chapman PA
Public Health Laboratory, Sheffield.
Journal of medical microbiology (SCOTLAND) Dec 1993, 39 (6) p408-15, ISSN 0022-2615 Journal Code: J2N
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 9403
Subfile: INDEX MEDICUS
Cases of culture-confirmed clinically typical haemorrhagic colitis caused by verocytotoxin-producing (VT+) Escherichia coli **O157** and age- and sex-matched control patients were examined for antibodies to E. coli **O157** . Serum samples from 28 cases and 34 patients in control group 1 were examined for VT1- and VT2-neutralising antibodies, E. coli **O157** agglutinating antibodies, and by an enzyme immunoassay (EIA) technique for **IgG** antibodies against smooth lipopolysaccharide purified from E. coli **O157** and for **IgG** antibodies against whole intact E. coli **O157** cells. Differences between antibody titres were significant when compared by a Wilcoxon two-sample test for E. coli **O157** agglutinating antibodies ($p < 0.05$) and **IgG** antibodies against whole cells ($p < 0.001$). The whole-cell EIA was used further to examine faecal samples from 93 cases and 47 patients in control group 2 for **IgA** antibodies. Elevated levels of faecal **IgA** specific for E. coli **O157** were found in 59 (63.4%) of 93 cases but in only 10 (21.2%) of 47 control patients ($p < 0.001$); follow-up faecal samples from five cases all showed marked rises in levels of **IgA** that appeared to coincide with cessation of excretion of the organism. Detection of specific faecal **IgA** with a whole-cell EIA, although requiring further evaluation, may be a useful addition to tests currently available for the diagnosis of infection by VT+ E. coli **O157** .
Tags: Animal; Comparative Study; Human
Descriptors: *Antibodies, Bacterial--Analysis--AN; *Colitis--Immunology --IM; *Escherichia coli--Immunology--IM; *Escherichia coli Infections --Immunology--IM; *Gastrointestinal Hemorrhage--Immunology--IM; Agglutination Tests; Antibodies, Bacterial--Blood--BL; Bacterial Toxins--Biosynthesis --BI; Case-Control Studies; Cross Reactions; Escherichia coli --Pathogenicity--PY; Feces--Chemistry--CH; Follow-Up Studies; **IgA** , Secretory--Analysis--AN; Immunoenzyme Techniques; Neutralization Tests; Vero Cells
CAS Registry No.: 0 (Antibodies, Bacterial); 0 (Bacterial Toxins); 0 (IgA, Secretory); 0 (Shiga-like toxin I)

15/9/48
DIALOG(R)File 155:MEDLINE(R)

07644543 94011289
Expression and characterization of the eaeA gene product of Escherichia coli serotype O157:**H7**.
Louie M; de Azavedo JC; Handelsman MY; Clark CG; Ally B; Dytoc M; Sherman P; Brunton J
Samuel Lunenfeld Research Institute, Mount Sinai Hospital, Toronto, Ontario, Canada.
Infection and immunity (UNITED STATES) Oct 1993, 61 (10) p4085-92, ISSN 0019-9567 Journal Code: GO7
Languages: ENGLISH

Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 9401
Subfile: INDEX MEDICUS

In enteropathogenic Escherichia coli, the eaeA gene produces a 94-kDa outer membrane protein called **intimin** which has been shown to be necessary but not sufficient to produce the attaching-and-effacing lesion. The purpose of this study was to characterize the **intimin** specified by the eaeA allele of the **enterohemorrhagic** E. coli (**EHEC**) serotype **O157** :H7 strain CL8 and to determine its role in adherence. The carboxyl-terminal 266 amino acids of the CL8 **intimin** were expressed as a protein fusion with glutathione S-transferase, which was used to raise **antiserum** in rabbits. The **antiserum** reacted in Western immunoblots with a 97-kDa outer membrane protein of **EHEC** strains of serogroups O5, O26, O111, and **O157** and enteropathogenic E. coli strains of serogroups O55 and O127. Surface labelling of CL8 with 125I showed that **intimin** was surface exposed. An eaeA insertional inactivation mutant of CL8 was produced and was designated CL8-KO1. Total adherence of CL8-KO1 to HEp-2 cells was not significantly different from that of CL8, but CL8-KO1 gave a negative result in the fluorescent actin staining test. The eaeA gene expressed alone in E. coli HB101 also gave a negative fluorescent actin staining test result. The eaeA gene of CL8 was able to complement the eaeA deletion mutation in CVD206. We conclude that the product of the **EHEC** eaeA gene is a 97-kDa surface-exposed protein and propose that it be designated **intiminO157** . Sherman et al. described a 94-kDa outer membrane protein which played an important role in adherence of E. coli **O157** :H7 (Infect. Immun. 59:890-899, 1991). Western immunoblotting and indirect fluorescent antibody studies showed that the protein described by Sherman et al. is not **intimin** .

Tags: Human; In Vitro; Support, Non-U.S. Gov't

Descriptors: *Bacterial Outer Membrane Proteins--Genetics--GE; *Escherichia coli--Pathogenicity--PY; Actins--Metabolism--ME; Antigens, Bacterial--Genetics--GE; Antigens, Surface--Genetics--GE; Bacterial Adhesion; Bacterial Outer Membrane Proteins--Immunology--IM; Bacterial Outer Membrane Proteins--Metabolism--ME; Base Sequence; Escherichia coli --Genetics--GE; Genes, Structural, Bacterial; Hela Cells; Microfilaments --Ultrastructure--UL; Molecular Sequence Data; Mutagenesis, Insertional; Oligodeoxyribonucleotides--Chemistry--CH; Recombinant Fusion Proteins

CAS Registry No.: 0 (Actins); 0 (Antigens, Bacterial); 0 (Antigens, Surface); 0 (Bacterial Outer Membrane Proteins); 0 (Oligodeoxyribonucleotides); 0 (Recombinant Fusion Proteins); 147094-99-3 (eae protein)

15/9/49
DIALOG(R)File 155:MEDLINE(R)

07612222 93374491

Differences in verotoxin neutralizing activity of therapeutic immunoglobulins **and sera from healthy controls.**

Bitzan M; Klemt M; Steffens R; Muller-Wiefel DE
Universitats-Kinderklinik, Hamburg, Germany.

Infection (GERMANY) May-Jun 1993, 21 (3) p140-5, ISSN 0300-8126
Journal Code: GO8
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 9312
Subfile: INDEX MEDICUS

Intestinal infection by Escherichia coli **O157** and other verotoxin (VT) producing E. coli has been increasingly recognized as an important factor for the causation of classic (enteropathic) hemolytic uremic syndrome (HUS) and hemorrhagic colitis (HC). Toxins most frequently involved are VT1 and VT2. As with other toxin-mediated diseases, administration of **immunoglobulin** (Ig) may be beneficial. However, little is known about the immune response elicited by the toxin(s), and the prevalence of VT neutralizing antibodies in the healthy population. We studied the capacity of seven Igs and a commercial plasma preparation to neutralize four

Confirmatory tests for VT production are needed when **O157** strains are isolated from faeces.

Tags: Human

Descriptors: *Bacterial Toxins--Metabolism--ME; *Diarrhea--Microbiology --MI; *Escherichia coli--Pathogenicity--PY; Child, Preschool; DNA, Bacterial--Genetics--GE; Escherichia coli--Classification--CL; Escherichia coli--Isolation and Purification--IP; Escherichia coli--Metabolism--ME; Feces--Microbiology--MI; Infant; Nucleic Acid Hybridization

CAS Registry No.: 0 (Bacterial Toxins); 0 (DNA, Bacterial); 0 (Shiga-like toxin I)

15/9/66

DIALOG(R)File 155:MEDLINE(R)

06939049 91147231

Outer membranes are competitive inhibitors of Escherichia coli O157:H7 adherence to epithelial cells.

Sherman P; Cockerill F 3d; Soni R; Brunton J

Division of Gastroenterology, Hospital for Sick Children, University of Toronto, Ontario, Canada.

Infection and immunity (UNITED STATES) Mar 1991, 59 (3) p890-9, ISSN 0019-9567 Journal Code: GO7

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9106

Subfile: INDEX MEDICUS

Escherichia coli of serotype **O157** :H7 are Vero cytotoxin-producing enteric pathogens that have been associated recently with sporadic cases and outbreaks of hemorrhagic colitis and with the hemolytic-uremic syndrome. Adherence of many enteropathogenic bacteria to mucosal surfaces is a critical step in the pathogenesis of diarrheal disease. We showed previously that adherence of E. coli **O157** :H7 strain CL-56 to epithelial cells in vitro is inhibited by outer membranes. In this study we examined whether outer membranes from a series of E. coli **O157** :H7 strains mediated competitive inhibition of bacterial binding to epithelial cells grown in tissue culture. We also determined which constituents of the outer membrane mediated inhibition of CL-56 adherence. Binding of six **O157** :H7 strains to HEp-2 cells was determined by quantitating the number of adherent bacteria in the presence and absence of outer membranes which were extracted from each strain with N-lauroyl sarcosinate (1.7%, wt/vol). After separation of outer membranes by gel electrophoresis, four bands (94, 40, 36, and 30 kDa) were collected by electroelution. Immune sera were raised in rabbits to each of the four eluted bands. Outer membrane extracts from each of the six **O157** :H7 strains inhibited binding of homologous organisms to the HEp-2 cells. At dilutions which did not cause bacterial agglutination, **antiserum** raised against the 94-kDa outer membrane protein showed maximal inhibition of bacterial adherence (17.0 +/- 7.3% adherence of control levels). Growth of bacteria in iron-depleted broth did not affect their binding to HEp-2 cells, suggesting that iron-regulated outer membranes were not involved. Fluid accumulation in ileal ligated loops of rabbits in response to E. coli **O157** :H7 challenge was diminished following both parenteral immunization with outer membranes extracted from the homologous strain and coincubation of organisms with immune serum which contained antibodies to outer membrane extracts. These data indicate that outer membranes are competitive inhibitors of E. coli **O157** :H7 adherence. Specific constituents of the outer membrane may function as bacterial attachment factors (i.e., adhesins) for E. coli **O157** :H7 adherence to epithelial cell surfaces.

Tags: Animal; Human; Support, Non-U.S. Gov't

Descriptors: *Bacterial Adhesion--Physiology--PH; *Bacterial Outer Membrane Proteins--Metabolism--ME; *Escherichia coli--Physiology--PH; Actins--Metabolism--ME; Antibiotics--Pharmacology--PD; Antibodies, Bacterial; Bacterial Outer Membrane Proteins--Immunology--IM; Bacterial Outer Membrane Proteins--Isolation and Purification--IP; Binding, Competitive; Colony Count, Microbial; Electrophoresis, Polyacrylamide Gel; Epithelium--Microbiology--MI; Escherichia coli--Classification--CL;

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Set	Items	Description

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Set	Items	Description
S1	49	((HEMOLYT? (N)UREMIC? (2N) SYNDROME?) OR EHEC? OR ENTEROHEMOR?)/TI AND PASSIV?
S2	19	RD (unique items)
S3	8	S2/1997:2000
S4	11	S2 NOT S3

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4/9/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
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08076821 95091045
Clinical management of hemolytic - uremic syndrome **and thrombotic-thrombocytopenic purpura]**
Klinisches Vorgehen bei hamolytisch-uramischem Syndrom und thrombotisch-thrombozytopenischer Purpura (HUS-TTP).
Keller F; Schwarze H; Schwarz A
Sektion Nephrologie, Medizinische Universitatsklinik, Ulm, Bundesrepublik, Deutschland.
Wiener klinische Wochenschrift (AUSTRIA) 1994, 106 (19) p603-7, ISSN 0043-5325 Journal Code: XOP
Languages: GERMAN Summary Languages: ENGLISH
Document type: JOURNAL ARTICLE; REVIEW; REVIEW, TUTORIAL ; English Abstract
JOURNAL ANNOUNCEMENT: 9503
Subfile: INDEX MEDICUS
BACKGROUND: According to recent research, the hemolytic-uremic syndrome (HUS) and thrombotic-thrombocytopenic purpura (TTP) are variable expressions of the same entity (HUS-TTP) with a common pathomechanism (endothelial cell damage, microthrombi) and common treatment (plasma infusion, plasmapheresis). The condition is still serious with a poor prognosis, and the therapeutic regimen is not yet standardized (cryosupernatant and factor VIII free plasma, steroids, immunoglobulins, anticoagulation, dextrane, prostacyclin, vincristine, splenectomy?). CLINICAL OBSERVATIONS AND REVIEW OF THE LITERATURE: Over an observation period of 15 years we considered the differential diagnosis of HUS-TTP in 34 patients, and treated 11 patients with 12 clinical courses specifically with fresh-frozen plasma (plasmapheresis was additionally performed in 10

of them). The 12 courses were retrospectively evaluated and compared with results achieved in the literature. The mean age of the patients was 43 years (+/- 14), and 9 of the 11 patients were women (2 courses given to one woman). The hemolysis improved in 9 of 12 courses, the cerebral manifestation in 3 of 4 cases, and the thrombocytopenia in 2 of 4 cases. Renal failure responded in only 4 of 9 cases and the response was delayed in these patients. Three patients died: one of brain edema due to TTP-specific cerebral microangiopathy and two due to the underlying disease (lupus erythematosus, mixed connective tissue disease). CONCLUSION: Treatment of HUS-TTP is started with fresh-frozen plasma infusions (1-1.5 liters/day), but plasmapheresis should be added 2 days later (3 x 4 liters/week, whereby 2 liters should be given as fresh-frozen plasma). The administration of fresh-frozen plasma must be continued every day. In resistant cases, specific therapy should not be terminated before 4 weeks. (36 Refs.)

Tags: Female; Human; Male

Descriptors: *Hemolytic-Uremic Syndrome--Therapy--TH; *Purpura, Thrombotic Thrombocytopenic--Therapy--TH; Adult; Combined Modality Therapy; Diagnosis, Differential; Hemolytic-Uremic Syndrome--Etiology--ET; Hemolytic-Uremic Syndrome--Mortality--MO; Immunization, **Passive** ; Middle Age; Plasma; Plasmapheresis; Purpura, Thrombotic Thrombocytopenic--Etiology --ET; Purpura, Thrombotic Thrombocytopenic--Mortality--MO; Retrospective Studies

4/9/4 (Item 4 from file: 155)

07607284 93366444

Virulence of enterohemorrhagic **Escherichia coli O91:H21 clinical isolates in an orally infected mouse model.**

Lindgren SW; Melton AR; O'Brien AD

Department of Microbiology, Uniformed Services University of the Health Sciences, Bethesda, Maryland 20814-4799.

Infection and immunity (UNITED STATES) Sep 1993, 61 (9) p3832-42, ISSN 0019-9567 Journal Code: GO7

Contract/Grant No.: AI 20148-10, AI, NIAID; T32-AI07308-05, AI, NIAID

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9312

Subfile: INDEX MEDICUS

Escherichia coli K-12 strains producing high levels of Shiga-like toxin type II (SLT-II) but not SLT-I were previously shown to be virulent in an orally infected, streptomycin-treated mouse model. In this investigation, we tested the virulence of several SLT-II-producing enterohemorrhagic E. coli (EHEC) isolates from patients with hemorrhagic colitis or hemolytic uremic syndrome. All of the strains tested were able to colonize the mouse intestine. However, only two strains were consistently virulent for mice: O91:H21 strain B2F1 (Strr), which was previously shown to carry two copies of slt-II-related toxins, and O91:H21 strain H414-36/89 (Strr), which was found in this study to contain three genes from the slt-II group. The oral 50% lethal doses of strains B2F1 (Strr) and H414-36/89 (Strr) when fed to streptomycin-treated mice were less than 10 bacteria. Histological sections from moribund mice fed the O91:H21 strains demonstrated extensive renal tubular necrosis; however, hematological results were not consistent with a diagnosis of hemolytic uremic syndrome. The central role of SLT in the virulence of the O91:H21 EHEC strains was supported by the finding that streptomycin-treated mice preinoculated with monoclonal antibody specific for SLT-II survived oral challenge with either B2F1 (Strr) or H414-36/89 (Strr). The basis for the variation in virulence among the SLT-II-producing EHEC strains tested was not determined. However, a correlation between the capacity of an EHEC strain to grow in small intestinal mucus and lethality in the streptomycin-treated mice was observed.

Tags: Animal; Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.

Descriptors: *Bacterial Toxins--Toxicity--TO; *Enterotoxins--Toxicity--TO

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USPT	passive immun$	117318	L15
USPT	attach$ near2 effac$	8	L14
USPT	l12 and (intimin or eaea or eae-a)	2	L13
USPT	l10 and l11	37	L12
USPT	ehec or hemorrhagic or enterohemorrhagic	2610	L11
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USPT	passive or passively or therapy or ivig or igiv or iggiv	110304	L7
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USPT	eaea.clm. and o157	0	L5
USPT	eaea.clm. and 0157	1	L4
USPT	intimin.clm.	0	L3
USPT	intimin.clm.	0	L2
USPT	ehec.clm.	12	L1

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S2        986   R1-R2
S3        986   R1-R7
S4        986   R1-R2
S5        126   E3-E6
S6          7   S5 AND (POLYCLONAL? OR MONOCLONAL? OR THERAP? OR IVIG OR I-
              GIV OR IGGIV)
S7       1347   S1-S5
S8        326   E3-E5
S9       1681   E3-E7
S10         2   "O157K88"
S11       324   "EHEC" OR "EHECS"
S12      2205   (S1-S11)
S13       192   S12 AND (IMMUNOGLOB? OR IMMUNOTHER? OR IMMUNOGLOB? OR ANTI-
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              L? OR FV OR CHIMERIC?)
S14        87   S13/1997:2000
S15       105   S13 NOT S14
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 15/9/29
DIALOG(R)File 155:MEDLINE(R)
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08410210   96004963
  Further characterisation of a monoclonal antibody reactive with
Escherichia coli O157:H7.
  Clark CG; Johnson S; Johnson RP
  Agriculture and Agri-Food Canada, Health of Animals Laboratory, Guelph,
Ontario.
  Journal of medical microbiology (SCOTLAND)  Oct 1995,  43 (4) p262-9,
ISSN 0022-2615  Journal Code: J2N
  Languages: ENGLISH
  Document type: JOURNAL ARTICLE
  JOURNAL ANNOUNCEMENT: 9601
  Subfile:  INDEX MEDICUS
   Monoclonal antibody (MAb) 4E8C12 has been previously reported to
recognise low mol. wt proteins from enterohaemorrhagic Escherichia coli (
 EHEC ) serotypes O157 :H7 and O26:H11. Crude lipopolysaccharide (LPS)
preparations from proteinase K-digested bacterial suspensions reacted in
Western blots with MAb 4E8C12, as did highly purified LPS from O157 :H7
strains. The material recognised by this antibody was, therefore, LPS. The
LPS epitope was identified by a whole-cell ELISA in several EHEC ,
verotoxin producing E. coli (VTEC) and verotoxin-negative strains in
addition to E. coli serotypes O157 :H7 and O26:H11. Acriflavine and bile
salts enhanced the production or availability of the epitope at the cell
surface and in culture supernates. These data indicate that the presence of
the epitope did not correlate with the virulence of these organisms.
  Tags: Animal; Human; Support, Non-U.S. Gov't
  Descriptors:  Antibodies, Monoclonal --Immunology--IM;  *Antigens,
Bacterial--Analysis--AN;  *Escherichia coli--Immunology--IM;  Antigens,
Bacterial--Immunology--IM;  Blotting, Western;  Electrophoresis,
Polyacrylamide Gel;  Epitopes--Analysis--AN;  Epitopes--Immunology--IM;
Escherichia coli--Pathogenicity--PY;  Lipopolysaccharides--Analysis--AN;
 Lipopolysaccharides--Immunology--IM; Virulence
  CAS Registry No.: 0  (Antibodies, Monoclonal); 0  (Antigens, Bacterial)
; 0  (Epitopes); 0  (Lipopolysaccharides)


 15/9/31
DIALOG(R)File 155:MEDLINE(R)
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08255543   95194012
  Detection of Escherichia coli O157 :H7 in meat by an enzyme-linked
```

immunosorbent assay, EHEC-Tek.
Johnson RP; Durham RJ; Johnson ST; MacDonald LA; Jeffrey SR; Butman BT
Health of Animals Laboratory, Agriculture and Agri-Food Canada, Guelph, Ontario.
Applied and environmental microbiology (UNITED STATES) Jan 1995, 61 (1) p386-8, ISSN 0099-2240 Journal Code: 6K6
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 9506
Subfile: INDEX MEDICUS
Investigation of the specificity of an enzyme-linked immunosorbent assay (ELISA) for detection of Escherichia coli **O157** :H7 in raw meats (**EHEC** -Tek; Organon Teknika Corp.) revealed that the target antigens of the detection reagent, **monoclonal** antibody 4E8C12, were present in numerous serotypes of E. coli and that their ELISA reactivity was influenced by bile salts, acriflavine, and heat. The specificity of the ELISA was improved by a modified test protocol incorporating immunocapture.
Descriptors: *Escherichia coli--Isolation and Purification--IP; *Meat --Microbiology--MI; Blotting, Western; Enzyme-Linked Immunosorbent Assay --Methods--MT; Food Microbiology; Sensitivity and Specificity

15/9/46
DIALOG(R)File 155:MEDLINE(R)

07700209 94094911
Virulence properties of Escherichia coli strains belonging to serogroups O26, O55, O111 and O128 isolated in the United Kingdom in 1991 from patients with diarrhoea.
Scotland SM; Willshaw GA; Smith HR; Said B; Stokes N; Rowe B
Laboratory of Enteric Pathogens, Central Public Health Laboratory, London.
Epidemiology and infection (ENGLAND) Dec 1993, 111 (3) p429-38, ISSN 0950-2688 Journal Code: EPI
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 9404
Subfile: INDEX MEDICUS
Some strains of Escherichia coli belonging to serogroups O26, O55, O111 or O128 produce Vero cytotoxin (VT). These serogroups are included in the range of enteropathogenic E. coli (EPEC) serogroups for which commercial **antisera** are available. In an attempt to obtain information on VT-producing strains other than those of serogroup **O157** , 122 strains belonging to these four serogroups and isolated in 1991 from patients with diarrhoea in the United Kingdom were tested for hybridization with VT probes. Only 18 of the 122 strains were VT-positive and these were O26 or O128. However 90 strains hybridized with the E. coli attaching and effacing (eae) probe (including 14 VT-positive strains) and 17 with the enteroaggregative E. coli (EAggEC) probe. For 78 eae-positive and 9 EAggEC-positive strains, tissue culture tests correlated with the probe results as the strains gave, respectively, either localized adhesion and a positive fluorescent-actin staining test or a characteristic aggregative attachment. A total of 111 of the 122 strains belonging to serogroups O26, O55, O111 or O128 possessed properties that may be associated with the ability to cause human diarrhoeal disease, and similar studies are needed on strains from the other classical EPEC serogroups.
Tags: Human
Descriptors: *Diarrhea--Microbiology--MI; *Escherichia coli --Pathogenicity--PY; *Escherichia coli Infections--Microbiology--MI; Adult; Bacterial Adhesion; Bacterial Proteins--Biosynthesis--BI; Bacterial Toxins --Biosynthesis--BI; Bacterial Toxins--Genetics--GE; Cell Line; Child; Child, Preschool; Cytotoxins--Biosynthesis--BI; Cytotoxins--Genetics--GE; DNA Probes; DNA, Bacterial--Analysis--AN; Enterotoxins--Biosynthesis--BI; Enterotoxins--Genetics--GE; Escherichia coli--Classification--CL; Escherichia coli--Genetics--GE; Great Britain; Hemolysins--Biosynthesis --BI; Infant; Nucleic Acid Hybridization; Serotyping

different VTs (VT1, VT2, VT2c and VT2e). The results were compared with the neutralization titers (NT50%) of normal human serum samples from various age groups. Plasma products and normal sera were separated by protein G affinity chromatography to investigate the factor(s) responsible for VT neutralization. All Igs neutralized VT1 (8 to 96 NT50%). None of them inhibited VT2, VT2c or VT2e effectively. In contrast, none of 40 pediatric, and only one of 20 adult control sera (starting dilution 1:4) neutralized VT1 (25 NT50%). All 60 samples as well as the plasma preparation blocked VT2 (22 to 446 NT50%, median 137), but not VT2c and VT2e. The VT1 neutralizing activity was eluted with the **IgG** fraction. The VT2 neutralizing activity was not bound by protein G, but was recovered in the **IgG** -free effluent. In conclusion, therapeutic Igs significantly neutralize VT1, but are largely ineffective against other VTs. In contrast, all control sera inhibited VT2, but rarely VT1.(ABSTRACT TRUNCATED AT 250 WORDS)

Tags: Comparative Study; Human

Descriptors: Bacterial Toxins--Immunology--IM; *Blood--Immunology--IM; *Enterotoxins--Immunology--IM; *Escherichia coli; * **Immunoglobulins** --Immunology--IM; Adolescence; Adult; Aged; Bacterial Toxins--Chemistry--CH ; Child; Child, Preschool; Chromatography, Affinity; **IgG** --Isolation and Purification--IP; Immunization, Passive; Infant; Middle Age; Nerve Tissue Proteins; Neutralization Tests; Plasma--Immunology--IM

CAS Registry No.: 0 (Bacterial Toxins); 0 (Enterotoxins); 0 (G-substrate); 0 (IgG); 0 (Immunoglobulins); 0 (Nerve Tissue Proteins); 0 (Shiga-like toxin I); 0 (Shiga-like toxin II)

15/9/52

DIALOG(R)File 155:MEDLINE(R)

07568164 93298407

Prevalence of verocytotoxigenic Escherichia coli serotype O157:**H7 in children with diarrhoea attending a Sydney hospital.**

Ong J; Zhe L; Robins-Browne R; Gapes M; O'Loughlin EV

Department of Gastroenterology, Children's Hospital, Camperdown, Australia.

Journal of paediatrics and child health (AUSTRALIA) Jun 1993, 29 (3) p185-7, ISSN 1034-4810 Journal Code: ARP

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9309

Subfile: INDEX MEDICUS

Verotoxin producing Escherichia coli, in particular serotype **O157** :H7, have been implicated as an important cause of acute gastroenteritis in children. This study was undertaken to determine if E. coli **O157** :H7 is an important cause of acute gastroenteritis in children in metropolitan Sydney. During the period from October 1990 to September 1991, stools from patients presenting with acute diarrhoea to The Children's Hospital, Camperdown, were examined for the presence of common bacterial pathogens. In addition, stools were grown on sorbitol McConkey agar and sorbitol non-fermenting organisms were serotyped with **O157** **antiserum** by slide agglutination. The isolates were then tested with H7 **antisera** and investigated for the production of verocytotoxin and other pathogenic markers including plasmid-associated **EHEC** adhesin and chromosomally encoded attachment-effacement gene. Only two strains (isolated from two different patients, 0.1% of specimens tested) were agglutinated by **O157** **antiserum** and both were non-motile (H-). However, both strains produced verotoxin and expressed other virulence markers, suggesting that they were responsible for the diarrhoea. Both patients experienced mild, self limited gastroenteritis. We conclude that E. coli **O157** :H7 is an uncommon cause of acute gastroenteritis in Sydney children presenting to a children's hospital.

Tags: Case Report; Female; Human; Male; Support, Non-U.S. Gov't

Descriptors: *Diarrhea--Microbiology--MI; *Escherichia coli--Isolation and Purification--IP; *Gastroenteritis--Microbiology--MI; Acute Disease; Bacterial Toxins--Biosynthesis--BI; Child, Preschool; Diarrhea--Etiology

--ET; Enterotoxins--Biosynthesis--BI; Escherichia coli--Classification--CL; Escherichia coli--Metabolism--ME; Feces--Microbiology--MI; Gastroenteritis --Complications--CO; Hospitals, Pediatric; Infant; New South Wales; Serotyping
CAS Registry No.: 0 (Bacterial Toxins); 0 (Enterotoxins)

15/9/53
DIALOG(R)File 155:MEDLINE(R)

07557728 93280514
Detection of faecal IgA in the diagnosis of infection by Escherichia coli 0157 [letter; comment]
Siddons CA; Chapman PA
Journal of infection (ENGLAND) May 1993, 26 (3) p343-4, ISSN 0163-4453 Journal Code: IG9
Comment on J Infect 1992 May;24(3):257-61
Languages: ENGLISH
Document type: COMMENT; LETTER
JOURNAL ANNOUNCEMENT: 9309
Subfile: INDEX MEDICUS
Tags: Human
Descriptors: Escherichia coli Infections--Diagnosis--DI; *Feces --Microbiology--MI; *Hemolytic-Uremic Syndrome--Microbiology--MI; * **IgA** --Analysis--AN
CAS Registry No.: 0 (IgA)

15/9/58
DIALOG(R)File 155:MEDLINE(R)

07199936 93123481
Strains of Escherichia coli 0157:H8 from human diarrhoea belong to attaching and effacing class of E coli.
Scotland SM; Willshaw GA; Cheasty T; Rowe B
Division of Enteric Pathogens, Central Public Health Laboratory, London.
Journal of clinical pathology (ENGLAND) Dec 1992, 45 (12) p1075-8, ISSN 0021-9746 Journal Code: HT3
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 9304
Subfile: AIM; INDEX MEDICUS
AIMS: To determine whether 17 Escherichia coli **0157** :H8 strains isolated from patients with diarrhoea in the United Kingdom were putative pathogens. METHODS: The strains had been isolated by the use of **0157** **antiserum** , available for the detection of Vero cytotoxin (VT) producing strains of E coli **0157** that are usually of flagellar (H) type 7, but may also be non-motile. The strains were examined for VT production, for their ability to adhere to HEp-2 cells, and for hybridisation with several DNA probes that recognise pathogenic properties of E coli. Their ability to ferment sorbitol and to produce beta-glucuronidase was also investigated, as these tests are used to discriminate VT positive **0157** strains. RESULTS: The **0157** :H8 strains did not produce VT. All gave localised attachment to HEp-2 cells, associated with a positive fluorescence-actin staining test, and all hybridised with the E coli attaching and effacing (eae) probe. In addition to the difference in VT production, **0157** :H8 strains could be distinguished from VT positive **0157** strains by their beta-glucuronidase activity, their failure to produce enterohaemolysin, and their lack of hybridisation with the CVD419 probe derived from a plasmid in an **0157** :H7 strain. CONCLUSIONS: The **0157** :H8 strains had in vitro properties characteristic of the class of E coli that causes attaching and effacing lesions in epithelial intestinal cells. They may therefore be considered a putative cause of diarrhoea but their prevalence remains to be established. Several **0157** :H8 strains failed to ferment sorbitol in agar plates and therefore could be misidentified as VT positive **0157** strains.

Fluorescent Dyes; Middle Age; Rabbits; Serotyping
CAS Registry No.: 0 (Actins); 0 (Adhesins, Escherichia coli); 0 (Antibiotics); 0 (Antibodies, Bacterial); 0 (Bacterial Outer Membrane Proteins); 0 (Fluorescent Dyes)

15/9/67
DIALOG(R)File 155:MEDLINE(R)

06907663 92149433
Experimental infection of specific-pathogen-free mice with enterohemorrhagic **Escherichia coli** 0157:**H7.**
Lai XH; Xu JG; Liu BY
Department of Microbiology, Chinese Academy of Preventive Medicine, Changping, Beijing.
Microbiology and immunology (JAPAN) 1991, 35 (7) p515-24, ISSN 0385-5600 Journal Code: MX7
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 9205
Subfile: INDEX MEDICUS
By subcutaneous inoculation of 10(8) CFU of **enterohemorrhagic** E. coli **0157** :H7, specific-pathogen-free mice revealed most of the symptoms and histological changes observed in patients. The histological changes in intestine were mainly seen in the distal parts of small intestine and the cecum. Vacuolation of villi in the cecum was also observed. The histological changes in the kidneys of the infected mice were featured as the swollen epithelial cells of glomeruli and the marked thickening of glomerular capillaries with barely visible lumens. Unexpected findings in the bronchiole were characterized by sloughing of the epithelial cells of bronchiolar wall, leading to partial or complete obstruction of the lumens. Histological changes in the spleen, liver and lymphnodes were also observed. The bacteria were recovered from the feces, contents of small intestine, and samples taken from kidney, liver, heart, spleen, different parts of small intestine, cecum, and colon. By using peroxidase-antiperoxidase (PAP) assay with **polyclonal** antibodies against "O" antigen of E. coli **0157** :H7, it was observed that the samples taken from the brain, kidney, ileum, cecum, spleen, and liver gave positive reactions. Feces and contents of small intestine obtained from all of the infected animals were positive by occult blood test. These results show that the experimental infection of E. coli **0157** :H7 in this model is systemic in nature.
Tags: Animal; Support, Non-U.S. Gov't
Descriptors: *Escherichia coli--Pathogenicity--PY; *Escherichia coli Infections--Microbiology--MI; Antigens, Bacterial--Analysis--AN; Brain --Microbiology--MI; Brain--Pathology--PA; Escherichia coli--Immunology--IM ; Escherichia coli--Isolation and Purification--IP; Escherichia coli Infections--Pathology--PA; Immunoenzyme Techniques; Intestines --Microbiology--MI; Intestines--Pathology--PA; Kidney--Microbiology--MI; Kidney--Pathology--PA; Lymph Nodes--Microbiology--MI; Lymph Nodes --Pathology--PA; Mice; Mice, Inbred ICR; Specific Pathogen-Free Organisms; Spleen--Microbiology--MI; Spleen--Pathology--PA
CAS Registry No.: 0 (Antigens, Bacterial)

15/9/65
DIALOG(R)File 155:MEDLINE(R)

06946927 92040117
The eae gene of enteropathogenic Escherichia coli encodes a 94-kilodalton membrane protein, the expression of which is influenced by the EAF plasmid.
Jerse AE; Kaper JB
Department of Medicine, University of Maryland School of Medicine, Baltimore 21201.
Infection and immunity (UNITED STATES) Dec 1991, 59 (12) p4302-9,

ISSN 0019-9567 Journal Code: GO7
Contract/Grant No.: AI21657, AI, NIAID
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 9202
Subfile: INDEX MEDICUS

The production of a characteristic intestinal histopathology called attaching and effacing (A/E) lesions by enteropathogenic Escherichia coli (EPEC) is a major characteristic of EPEC pathogenesis. We previously identified a chromosomal gene (eae) of EPEC necessary for the production of A/E lesions on human tissue culture cells. Using **antiserum** raised to an Eae-PhoA fusion protein, we found that the eae gene encodes a 94-kDa membrane protein. This **antiserum** recognized a 94-kDa membrane protein in parent strain E2348/69 and a protein of similar size in E. coli HB101 carrying eae on a plasmid but did not recognize any proteins in E. coli HB101 carrying a plasmid with an internal deletion in the eae gene. Antigenically related proteins of ca. 94 kDa were detected in a collection of EPEC strains representing seven EPEC serogroups and in two **EHEC** strains of serotype O26:H11. Volunteer sera drawn 28 days after but not before ingestion of strain E2348/69 recognized the 94-kDa Eae protein as well as a 128-kDa Eae-PhoA fusion protein, suggesting that the Eae protein is likely to be a previously reported 94-kDa protein shown to be immunogenic in volunteers. The amount of detectable Eae protein was increased in the presence of a high-molecular-weight plasmid which is associated with the ability to produce localized adherence to tissue culture cells. These data suggest that the virulence plasmid of EPEC strain E2348/69 may have a regulatory role in the production of A/E activity.

Tags: Animal; Human; Support, U.S. Gov't, P.H.S.
Descriptors: *Bacterial Adhesion; *Bacterial Outer Membrane Proteins --Genetics--GE; *Bacterial Proteins--Genetics--GE; *Escherichia coli --Genetics--GE; *Genes, Bacterial; *Membrane Proteins--Genetics--GE; *Plasmids; Alkaline Phosphatase--Analysis--AN; Escherichia coli --Pathogenicity--PY; Membrane Proteins--Immunology--IM; Membrane Proteins --Physiology--PH; Rabbits; Recombinant Fusion Proteins--Biosynthesis--BI
CAS Registry No.: 0 (Adhesins, Escherichia coli); 0 (Bacterial Outer Membrane Proteins); 0 (Bacterial Proteins); 0 (Membrane Proteins); 0 (Plasmids); 0 (Recombinant Fusion Proteins)
Enzyme No.: EC 3.1.3.1 (Alkaline Phosphatase)
Gene Symbol: eae

15/9/78

06473440 90351154

Haemolytic uraemic syndromes in the British Isles, 1985-8: association with verocytotoxin producing Escherichia coli. Part 2: Microbiological aspects.

Kleanthous H; Smith HR; Scotland SM; Gross RJ; Rowe B; Taylor CM; Milford DV
Department of Nephrology, Children's Hospital, Birmingham.

Archives of disease in childhood (ENGLAND) Jul 1990, 65 (7) p722-7, ISSN 0003-9888 Journal Code: 6XG
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 9011
Subfile: AIM; INDEX MEDICUS

In a three year study of children under 16 years with haemolytic uraemic syndrome faecal samples were examined for the presence of Verocytotoxin producing Escherichia coli (VTEC) using DNA probes and for free neutralisable Verocytotoxin in a Vero cell assay with specific **antisera** . There was evidence of VTEC infection in 58 of 185 (31%) samples. A total of 53 VTEC was identified from patients with haemolytic uraemic syndrome. Thirty eight VTEC belonged to serotype **0157** :H7 or **0157** :H-, 34 produced VT2 only, and four strains produced both VT1 and VT2. The remaining 15 VTEC belonged to nine different 0 serogroups; three strains produced VT1, 10

produced VT2, and two were positive for VT1 and VT2. Three control groups of patients without haemolytic uraemic syndrome were also examined. There was evidence of VTEC infection in 8%, 6%, and 4% of specimens from individuals with bloody diarrhoea, those with diarrhoea only, and healthy controls respectively. VTEC from the bloody diarrhoeal and diarrhoeal controls were **0157** :H7 but those from the healty controls could not be 0 serogrouped. This study confirms the association of VTEC, and particularly strains of **0157** :H7, with haemolytic uraemic syndrome. Strains producing VT1, VT2, or both toxins were isolated, although over 94% of VTEC produced VT2 alone or together with VT1.

Tags: Human; Support, Non-U.S. Gov't

Descriptors: *Bacterial Toxins--Isolation and Purification--IP; *Escherichia coli--Isolation and Purification--IP; *Feces--Microbiology--MI ; *Hemolytic-Uremic Syndrome--Microbiology--MI; Adolescence; Child; Child, Preschool; Diarrhea--Microbiology--MI; DNA Probes; Escherichia coli --Classification--CL; Family Health; Great Britain--Epidemiology--EP; Hemolytic-Uremic Syndrome--Epidemiology--EP; Serotyping

CAS Registry No.: 0 (Bacterial Toxins); 0 (DNA Probes); 0 (Shiga-like toxin I); 0 (Shiga-like toxin II)

15/9/71

DIALOG(R)File 155:MEDLINE(R)

06790298 92016153

[Hemorrhagic colitis and hemolytic-uremic syndrome--E. coli as the etiologic agent. I. Bacteriology and pathogenesis]

Die hamorrhagische Colitis und das hamolytisch-uramische Syndrom--E.coli als atiologisches Agens. I. Bakteriologie und Pathogenese.

Tschape H; Bohme G

Bundesgesundheitsamt Robert-Koch-Institut.

Kinderarztliche Praxis (GERMANY) Jun 1991, 59 (6) p161-5, ISSN 0023-1495 Journal Code: KVD

Languages: GERMAN Summary Languages: ENGLISH

Document type: JOURNAL ARTICLE; REVIEW; REVIEW, TUTORIAL ; English Abstract

JOURNAL ANNOUNCEMENT: 9201

Subfile: INDEX MEDICUS

Since 1983 when the connection between haemorrhagic colitis (HC), haemolytic uraemic syndrome (HUS), and intestinal infections by verotoxin-producing E. coli (VTEC, **EHEC**) was demonstrated, a lot of arguments has been accumulated showing verotoxins (Shiga-like toxins, SLT) and adhesive fimbria to play a key role in the pathogenicity of the respective E. coli group. The toxins bind via Gb3 receptors to the target cells and after internalization inhibit the protein synthesis. Due to the particular clustering of receptors at cell surfaces, vascular endothelial cells, intestinal epithelial cells as well as kidney and nerve tissues are especially affected. The severity of illness is obviously dependent on the relation between release of toxins and the actual level of anti-toxin-**IgG** in the blood. (62 Refs.)

Tags: Human

Descriptors: *Colitis--Microbiology--MI; *Escherichia coli--Pathogenicity --PY; *Escherichia coli Infections--Microbiology--MI; *Gastrointestinal Hemorrhage--Microbiology--MI; *Hemolytic-Uremic Syndrome--Microbiology--MI ; Bacterial Toxins--Metabolism--ME; Child, Preschool; Infant

CAS Registry No.: 0 (Bacterial Toxins); 0 (Shiga-like toxin I)

15/9/75

DIALOG(R)File 155:MEDLINE(R)

06664130 91131805

Production and characterization of a monoclonal **antibody specific for** enterohemorrhagic **Escherichia coli of serotypes** O157:**H7 and O26:H11.**

Padhye NV; Doyle MP

Department of Food Microbiology and Toxicology, University of Wisconsin, Madison 53706.
Journal of clinical microbiology (UNITED STATES) Jan 1991, 29 (1) p99-103, ISSN 0095-1137 Journal Code: HSH
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 9105
Subfile: INDEX MEDICUS

A **monoclonal** antibody (MAb 4E8C12) specific for Escherichia coli **O157** :H7 and O26:H11 was produced by immunizing BALB/c mice with a rough strain of E. coli **O157** :H7. The antibody reacted strongly by a direct enzyme-linked immunosorbent assay with each of 36 strains of E. coli **O157** :H7. No cross-reactivity was observed with strains of Salmonella spp., Yersinia enterocolitica, Shigella dysenteriae, Proteus spp., Escherichia hermanii, Klebsiella pneumoniae, Campylobacter jejuni, Serratia marcescens, Citrobacter spp., Enterobacter cloacae, Hafnia alvei, Aeromonas hydrophila, and all except five strains of E. coli other than serotype **O157** :H7 (including strains of serotype **O157** but not H7). The E. coli strains (all of serotype O26:H11) that reacted with the antibody were **enterohemorrhagic** E. coli (**EHEC**) that were isolated from patients with hemolytic uremic syndrome or hemorrhagic colitis and produced verotoxin similar to that of E. coli **O157** :H7. MAb 4E8C12 belongs to the subclass **immunoglobulin** G2a and has a kappa light chain. Tricine-sodium dodecyl sulfate-polyacrylamide gel electrophoresis of outer membrane proteins of E. coli of different serotypes followed by Western immunoblot analysis revealed that MAb 4E8C12 reacted specifically with two proteins of **EHEC** strains of serotypes **O157** :H7 and O26:H11 with apparent molecular weights of 5,000 to 6,000. These proteins appeared to be markers specific for **EHEC** strains of serotypes **O157** :H7 and O26:H11. This MAb, because of its specificity, may be a useful reagent of an immunoassay for the rapid detection of these types of **EHEC** isolates in clinical and food specimens.

Tags: Animal; Male; Support, Non-U.S. Gov't
Descriptors: Antibodies, **Monoclonal** --Biosynthesis--BI; *Escherichia coli--Immunology--IM; *Hybridomas--Immunology--IM; Colitis--Microbiology --MI; Enzyme-Linked Immunosorbent Assay; Hemolytic-Uremic Syndrome --Microbiology--MI; Mice; Mice, Inbred BALB C
CAS Registry No.: 0 (Antibodies, Monoclonal)

15/9/81
DIALOG(R)File 155:MEDLINE(R)

06111734 87200429
Haemorrhagic colitis and Vero-cytotoxin-producing Escherichia coli in England and Wales.
Smith HR; Rowe B; Gross RJ; Fry NK; Scotland SM
Lancet (ENGLAND) May 9 1987, 1 (8541) p1062-5, ISSN 0140-6736 Journal Code: L0S
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 8708
Subfile: AIM; INDEX MEDICUS

Vero-cytotoxin-producing strains of Escherichia coli (VTEC) were identified by the use of DNA probes in 39% of faecal samples from patients with haemorrhagic colitis in England and Wales. The patients with VTEC were distributed widely and their ages ranged from 2.5 to 86 years (mean 41). 3 patients died, including a child of 2.5 years. 30 of the 32 VTEC strains belonged to serogroup **O157** . Plating on sorbitol agar for non-fermenters followed by agglutination with a specific **O157** **antiserum** was a useful screening method for **O157** VT+ strains. However, it was not as sensitive as the DNA probe technique and did not detect VTEC of other serogroups.

Tags: Animal; Comparative Study; Female; Human; Male
Descriptors: *Colitis--Microbiology--MI; *Cytotoxins--Analysis--AN; *Escherichia coli--Isolation and Purification--IP; *Escherichia coli Infections--Microbiology--MI; Adolescence; Adult; Aged; Bacteriological Techniques; Child; Child, Preschool; Colitis--Epidemiology--EP; DNA,

Bacterial--Analysis--AN; England; Escherichia coli Infections--Epidemiology --EP; Hemorrhage--Epidemiology--EP; Hemorrhage--Microbiology--MI; Infant; Middle Age; Nucleic Acid Hybridization; Vero Cells; Wales
CAS Registry No.: 0 (Cytotoxins); 0 (DNA, Bacterial)

15/9/83
DIALOG(R)File 155:MEDLINE(R)

05894314 89175398
Identification of Escherichia coli serotype O157 **strains by using a** monoclonal **antibody.**
Perry MB; Bundle DR; Gidney MA; Lior H
Division of Biological Sciences, National Research Council, Ottawa, Ontario, Canada.
Journal of clinical microbiology (UNITED STATES) Nov 1988, 26 (11) p2391-4, ISSN 0095-1137 Journal Code: HSH
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 8907
Subfile: INDEX MEDICUS
The **O157** antigenic determinant of Escherichia coli serotype **O157** :H7, an important bacterial pathogen, resides in the polysaccharide portion of its cellular lipopolysaccharide component which, from structural studies, was identified as a linear polymer of a repeating tetrasaccharide unit composed of D-glucose, L-fucose, 2-acetamido-2-deoxy-D-galactose, and 4-acetamido-4,6-dideoxy-D-mannose residues (1:1:1:1). Hybrid cells producing **monoclonal** antibodies against the E. coli **O157** antigen were obtained by fusion of myeloma cells with lymphocytes from BALB/c mice immunized with killed E. coli **O157** :117 cells. Clones were selected for binding specificity with purified O polysaccharide. One **monoclonal** antibody used in direct slide agglutinations or in coagglutination reactions with Staphylococcus aureus Cowan 1 cells sensitized with the affinity column-purified antibody accurately detected all strains of E. coli **O157** tested. This selected **monoclonal** antibody did not agglutinate E. coli strains such as E. coli O7 and E. coli O116 or other bacteria which are known to give positive agglutinations with conventional **polyclonal** E. coli **antisera** . These results indicate that the **monoclonal** antibody is a superior specific-typing reagent.
Tags: Animal; Female
Descriptors: Antibodies, **Monoclonal** --Diagnostic Use--DU; *Escherichia coli--Classification--CL; Agglutination Tests; Antibodies, **Monoclonal** --Isolation and Purification--IP; Antigens, Bacterial--Immunology--IM; Enzyme-Linked Immunosorbent Assay; Escherichia coli--Immunology--IM; Lipopolysaccharides--Immunology--IM; Mice; Mice, Inbred BALB C
CAS Registry No.: 0 (Antibodies, Monoclonal); 0 (Antigens, Bacterial) ; 0 (Lipopolysaccharides)
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16oct00 10:03:21 User228206 Session D1337.4
$2.25 0.705 DialUnits File155
$3.40 17 Type(s) in Format 9
$3.40 17 Types
$5.65 Estimated cost File155
$0.05 TYMNET
$5.70 Estimated cost this search
$5.70 Estimated total session cost 0.705 DialUnits

Status: Signed Off. (1 minutes)

>SET HILIGHT: use ON, OFF, or 1-5 characters
988 IVIG/TI
79 IGIV/TI
0 IGGIV/TI
29 IVIGG/TI
212 IVG?/TI
2622 HUS
S1 4 (IVIG OR IGIV OR IGGIV OR IVIGG OR IVG?)/TI (100N) HUS
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1/8/1 (Item 1 from file: 155)
DIALOG(R)File 155:(c) format only 2000 Dialog Corporation. All rts. reserv.

09141761 97241546
Aiming serotherapy of HUS- IVIG, **serum lipoprotein and C3]**
Mar 1997
Tags: Animal; Human
Descriptors: *Complement 3; *Escherichia coli Infections; *Escherichia coli O157; *Hemolytic-Uremic Syndrome--Therapy--TH; *Immunoglobulins, Intravenous; *Lipoproteins; Complement 3--Physiology--PH; Gastrointestinal Hemorrhage--Etiology--ET; Hemolytic-Uremic Syndrome--Etiology--ET; Immunoglobulins, Intravenous--Administration and Dosage--AD; Lipoproteins --Physiology--PH
CAS Registry No.: 0 (Complement 3); 0 (Immunoglobulins, Intravenous); 0 (Lipoproteins)

1/8/2 (Item 1 from file: 5)
10687301 BIOSIS NO.: 199799308446
Intravenous gabexate mesilate (IVGM) plus gammaglobulin (IVIG) treatment in childhood hemolytic uremic syndrome (HUS).
1996

1/8/3 (Item 1 from file: 34)
DIALOG(R)File 34:(c) 2000 Inst for Sci Info. All rts. reserv.

05242440 Genuine Article#: VK074 Number of References: 0
Title: INTRAVENOUS GABEXATE MESILATE (IVGM) PLUS GAMMA-GLOBULIN (IVIG) TREATMENT IN CHILDHOOD HEMOLYTIC-UREMIC SYNDROME (HUS)
Journal Subject Category: UROLOGY & NEPHROLOGY

1/8/4 (Item 1 from file: 94)
DIALOG(R)File 94:(c)2000 Japan Science and Tech Corp(JST). All rts. reserv.

03225743 JICST ACCESSION NUMBER: 97A0337500 FILE SEGMENT: JICST-E
Aiming Serotherapy of HUS- IVIG, **Serum Lipoprotein and C3.**, 1997
DESCRIPTORS: bacterial infection(disease); Escherichia coli; immunoglobulin preparation; blood lipoprotein; complement(immunology); immunotherapy; human(primates); cultured cell; uremia; hemolytic anemia; blood platelet disorder; exotoxin; enteropathogenic Escherichia coli
BROADER DESCRIPTORS: infectious disease; disease; Escherichia; Enterobacteriaceae; bacterium; microorganism; blood preparation; drug; blood protein; blood component; component; animal protein; protein; lipoprotein; therapy; cell(cytology); kidney disease; urologic disease; anemia; hematologic disease; anomaly;

Basic Patent (No,Kind,Date): US 5747293 A 19980505 <No. of Patents: 001>
INTIMIN-LIKE PROTEINS OF E. COLI (English)
Patent Assignee: IMPERIAL COLLEGE (GB)
Author (Inventor): DOUGAN GORDON (GB); FRANKEL GAD (GB)
National Class: *530402000; 530350000; 530825000
IPC: *C07K-014/245; C07K-014/00; C07K-014/24
CA Abstract No: *129(01)003861Z; 129(01)003861Z
Derwent WPI Acc No: *C 98-285750; C 98-285750
Language of Document: English
Patent Family:

Patent No	Kind	Date	Applic No	Kind	Date	
US 5747293	A	19980505	US 409452	A	19950323	(BASIC)

Priority Data (No,Kind,Date):
US 409452 A 19950323

Dialog File: Inpadoc/Fam.& Legal Stat_1968-2000/UD=200040

INHIBITORS OF INTIMIN **ADHESION AND TESTS FOR THEIR SCREENING**
INHIBITOREN VON HAFTUNG DES INTIMINS **UND VERFAHREN ZU DESSEN NACHWEIS**
INHIBITEURS D'ADHESION D' INTIMINE **ET TESTS POUR LEUR CRIBLAGE**

PATENT ASSIGNEE:
IMPERIAL COLLEGE INNOVATIONS LIMITED, (2530151), Sherfield Building, Imperial College, London SW7 2AZ, (GB), (Applicant designated States: all)
INVENTOR:
FRANKEL, Gad Meir , Dept.of Biochemistry, Imperial College, London SW7 2AZ, (GB)
MATTHEWS, Stephen John, Dept.of Biochemistry, Imperial College, London SW7 2AZ, (GB)
HALE, Christine Betty, Dept.of Biochemistry, Imperial College, London SW7 2AZ, (GB)
DOUGAN, Gordon, Dept.of Biochemistry, Imperial College, London SW7 2AZ, (GB

PATENT (CC, No, Kind, Date):
WO 0045173 000803
APPLICATION (CC, No, Date): WO 901250 000131; WO 00GB254 000131
PRIORITY (CC, No, Date): GB 9901897 990129
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: G01N-033/569; A61K-031/70; C07H-015/10
LANGUAGE (Publication,Procedural,Application): English; English; English

INHIBITORS OF INTIMIN **ADHESION AND TESTS FOR THEIR SCREENING**
INHIBITOREN VON HAFTUNG DES INTIMINS **UND VERFAHREN ZU DESSEN NACHWEIS**
INHIBITEURS D'ADHESION D' INTIMINE **ET TESTS POUR LEUR CRIBLAGE**
INVENTOR:
FRANKEL, Gad Meir ...

Intimin-**like proteins of E. coli: US PATENT-5747293. May 5, 1998.**
Dougan G; **Frankel G**
London, England, UK.
Official Gazette of the United States Patent and Trademark Office Patents
Vol.1210, No.1, May 5, p.450, 1998.
PATENT NUMBER: US 5747293 PATENT DATE: May 5, 1998 (19980505)
PATENT CLASSIFICATION CODE: 530402000

Intimin-**like proteins of E. coli: US PATENT-5747293. May 5, 1998.**
...**Frankel G**

; *Escherichia coli--Pathogenicity--PY; *Escherichia coli Infections --Microbiology--MI; Bacterial Toxins--Biosynthesis--BI; Bacterial Toxins --Genetics--GE; Escherichia coli--Growth and Development--GD; Escherichia coli--Genetics--GE; Escherichia coli Infections--Blood--BL; Escherichia coli Infections--Immunology--IM; Escherichia coli Infections--Pathology --PA; Immunization, **Passive** ; Lethal Dose 50; Mice; Mouth--Microbiology --MI; Virulence
CAS Registry No.: 0 (Bacterial Toxins); 0 (Enterotoxins); 0 (Shiga-like toxin II)
Gene Symbol: slt-II

4/9/5 (Item 5 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06972635 91329195
The use of intravenous gammaglobulin in the treatment of typical hemolytic uremic syndrome.
Robson WL; Fick GH; Jadavji T; Leung AK
Department of Pediatrics, University of Calgary, Alberta, Canada.
Pediatric nephrology (GERMANY) May 1991, 5 (3) p289-92, ISSN 0931-041X Journal Code: AVR
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 9111
Subfile: INDEX MEDICUS
Nine children with acute typical post-diarrhea hemolytic uremic syndrome (HUS) were treated with intravenous gammaglobulin (IVIG). These children were compared to nine children with HUS who did not receive IVIG. The use of IVIG did not appear to have a beneficial effect on eight of the nine treated children. There were no significant differences found in the duration of hemorrhagic colitis, thrombocytopenia, elevation of the white blood count (WBC), anuria, dialysis, or hospitalization, or the presence of a central nervous system complication or pancreatitis. Although no significant difference was found in the duration of thrombocytopenia, there was a trend towards a longer duration of thrombocytopenia in children treated with IVIG (P = 0.13). One child demonstrated both an increase in her platelet count and a decrease in her WBC count within 24 h of receiving her first dose of IVIG.
Tags: Comparative Study; Female; Human; Male
Descriptors: Gamma-Globulins--Administration and Dosage--AD; *Hemolytic-Uremic Syndrome--Therapy--TH; *Immunization, **Passive** ; Adolescence; Anuria; Child; Child, Preschool; Colitis--Therapy--TH; Infant; Infusions, Intravenous; Leukocyte Count; Prognosis; Thrombocytopenia --Therapy--TH
CAS Registry No.: 0 (Gamma-Globulins)

4/9/6 (Item 6 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

05883524 89055497
Anticytotoxin-neutralizing antibodies in immune globulin preparations: potential use in hemolytic- uremic syndrome **[see comments]**
Ashkenazi S; Cleary TG; Lopez E; Pickering LK
Program in Infectious Diseases and Clinical Microbiology, University of Texas Medical School, Houston 77025.
Journal of pediatrics (UNITED STATES) Dec 1988, 113 (6) p1008-14, ISSN 0022-3476 Journal Code: JLZ
Comment in J Pediatr 1989 Sep;115(3):502-4
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 8903
Subfile: AIM; INDEX MEDICUS
The pathogenesis of primary (classic) hemolytic-uremic syndrome (HUS) is

thought to be related to cytotoxin-producing enteric pathogens such as Shigella dysenteriae serotype 1 and Escherichia coli serotypes 0157:H7 and 026:H11. The relevant cytotoxins include Shiga toxin and the closely related Shiga-like toxins (SLTs) produced by some E. coli strains. Intravenously administered immune globulin (IVIG) therapy has been reported to be beneficial in a few children with HUS. We therefore examined commercially available immune globulin preparations for the presence of anticytotoxin-neutralizing antibodies. Cytotoxicity and neutralization of the HUS-associated cytotoxins were quantitatively determined by means of a (3H)thymidine-labeled HeLa cell assay. The immune globulin preparations tested almost completely neutralized Shiga toxin (produced by S. dysenteriae 1) and SLT-I (produced by E. coli serotype 026:H11). Twofold dilutions of the preparations showed significant (p less than 0.01) neutralizing titers of 1:64 to 1:128. No significant neutralization (greater than 20%) of SLT-II (produced by E. coli strain C600 (933W] was noted. The IVIG preparation lost its inhibitory activity when passed through a protein A-Sepharose column, which bound immune globulin, indicating that its neutralizing effect is related to the antibody content. We also examined sera from 30 children without diarrhea or HUS; only one child had neutralizing titers against Shiga toxin (1:64) and SLT-I (1:128). Immune globulin preparations contain anticytotoxin-neutralizing antibodies, a finding that warrants further investigation of the therapeutic role of these preparations in early treatment of children with HUS related to Shiga toxin and SLT-I.

Tags: Human; Support, Non-U.S. Gov't

Descriptors: Antibodies, Bacterial--Administration and Dosage--AD; *Cytotoxins--Immunology--IM; *Escherichia coli--Immunology--IM; *Hemolytic-Uremic Syndrome--Therapy--TH; *Immunization, **Passive** --Methods--MT; *Neutralization Tests; *Shigella dysenteriae--Immunology--IM; Adolescence; Child; Child, Preschool; Cytotoxicity, Immunologic; Diarrhea, Infantile --Therapy--TH; Dysentery, Bacillary--Therapy--TH; Escherichia coli Infections--Therapy--TH; Hela Cells--Immunology--IM; Hemolytic-Uremic Syndrome--Immunology--IM; Infant

CAS Registry No.: 0 (Antibodies, Bacterial); 0 (Cytotoxins)

4/9/7 (Item 7 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

05569051 89361926

Immunologic therapy for hemolytic- uremic syndrome **[letter; comment]**

Milford DV; Taylor CM; Rose PE; Roy TC; Rowe B

Journal of pediatrics (UNITED STATES) Sep 1989, 115 (3) p502-4, ISSN 0022-3476 Journal Code: JLZ

Comment on J Pediatr 1988 Dec;113(6):1008-14

Languages: ENGLISH

Document type: COMMENT; LETTER

JOURNAL ANNOUNCEMENT: 8912

Subfile: AIM; INDEX MEDICUS

Tags: Human

Descriptors: Hemolytic-Uremic Syndrome--Therapy--TH; *Immunization, **Passive** ; Child; Erythrocytes--Immunology--IM; Hemolytic-Uremic Syndrome --Etiology--ET; Risk Factors

4/9/8 (Item 1 from file: 144)

DIALOG(R)File 144:Pascal

10507167 PASCAL No.: 93-0016418

Inefficacy of intravenous immunoglobulin in patients with low-risk thrombotic thrombocytopenic purpura/ hemolytic- uremic syndrome

FINAZZI G; BELLAVITA P; FALANGA A; VIERO P; BARBUI T

Osp. Riuniti, transfusion dep., hematolody div., 24100 Bergamo, Italy

Journal: American journal of hematology, 1992, 41 (3) 165-169

ISSN: 0361-8609 CODEN: AJHEDD Availability: INIST-15510;

354000032115630040
No. of Refs.: 23 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: USA
Language: English
Objective: To assess the efficacy of intravenous immunoglobulin (IVIG), in comparison with plasma exchange (PE), in the treatment of patients with thrombotic thrombocytopenic purpura/hemolytic-uremic syndrome (TTP/HUS). Design: Prospective, nonrandomized comparative study. Setting: Hematology department in a general hospital. Patients: 17 consecutive adult patients, six of them pregnant, with diagnosis of TTP/HUS. Three had a severity score at diagnosis <=4 and were treated with IVIG and 14 had a severity score of >=5 and/or were pregnant and received PE
English Descriptors: Thrombotic thrombocytopenic purpura; Hemolytic uremic syndrome; Human; Immunoglobulins; Intravenous administration; Platelet; **Passive** immunization; Failure; Immunotherapy; Treatment
Broad Descriptors: Hemopathy; Hemolytic anemia; Nervous system diseases; Urinary system disease; Vascular disorders of the skin; Renal failure; Hemopathie; Anemie hemolytique; Systeme nerveux pathologie; Appareil urinaire pathologie; Vaisseau sanguin peau pathologie; Insuffisance renale; Hemopatia; Anemia hemolitica; Sistema nervioso patologia; Aparato urinario patologia; Vaso sanguineo piel patologia; Insuficiencia renal

French Descriptors: Purpura thrombocytopenique thrombotique; Hemolyse uremie; Homme; Immunoglobuline; Voie intraveineuse; Thrombocyte; Immunisation **passive** ; Echec; Immunotherapie; Traitement

Classification Codes: 002B02Q
?t s4/6,kwic/11

4/6,KWIC/11 (Item 1 from file: 47)

04158366 SUPPLIER NUMBER: 15925041 (USE FORMAT 7 OR 9 FOR FULL TEXT)
A multistate outbreak of Escherichia coli O157:H7-associated bloody diarrhea and hemolytic uremic syndrome **from hamburgers: the Washington experience.**
Nov 2, 1994
WORD COUNT: 4948 LINE COUNT: 00404

A multistate outbreak of Escherichia coli O157:H7-associated bloody diarrhea and hemolytic uremic syndrome **from hamburgers: the Washington experience.**
... by the meat recall in Washington.
Nonetheless, the outbreak also illustrates the limitations of routine **passive** surveillance. Cases of chain A-associated infection had occurred before mid January, when the outbreak...

Detection and localization of the EaeA protein of attaching **and** effacing **Escherichia coli O45 from pigs using a monoclonal antibody.**

Zhu C; Menard S; Dubreuil JD; Fairbrother JM

Groupe de Recherche sur les Maladies Infectieuses du Porc, Universite de Montreal, Faculte de Medecine Veterinaire, Quebec, Canada.

Microbial pathogenesis (ENGLAND) Sep 1996, 21 (3) p205-13, ISSN 0882-4010 Journal Code: MIC

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9704

Subfile: INDEX MEDICUS

The eaeA-positive, **attaching** and **effacing** (A/E) O45 E. coli isolates from pigs express an EaeA protein with an estimated molecular weight of 97 kDa. In the present study, a monoclonal antibody was raised against the EaeA protein of an A/E O45 isolate. **Cross reaction** of the monoclonal antibody with the EaeA protein of A/E strain of the rabbit (RDEC-1), but not with those of A/E strains of the human (E2348/69) and dog (89-4221), was observed. Reactions of the monoclonal antibody to A/E isolates in the O45 serogroup on the ELISA varied among isolates and appeared to be correlated with in vivo A/E capacity of these isolates. The EaeA protein of A/E O45 E. coli has an apparent isoelectric point of 8.4 and is exposed on the bacterial surface. The monoclonal antibody provides a useful tool for characterization of the EaeA protein of E. coli isolates from pigs.

Tags: Animal; Support, Non-U.S. Gov't

Descriptors: *Bacterial Outer Membrane Proteins --Isolation and Purification--IP; *Escherichia coli--Chemistry--CH; Antibodies, Bacterial; Antibodies, Monoclonal; Bacterial Outer Membrane Proteins--Immunology--IM; Cell Compartmentation; **Cross Reactions** ; Escherichia coli--Immunology --IM; Species Specificity; Swine

CAS Registry No.: 0 (Antibodies, Bacterial); 0 (Antibodies, Monoclonal); 0 (Bacterial Outer Membrane Proteins); 147094-99-3 (eae protein)

Characterization of the C-terminal domains of intimin-like proteins of enteropathogenic and enterohemorrhagic Escherichia coli, Citrobacter freundii, and Hafnia alvei.

Frankel G ; Candy DC; Everest P; Dougan G

Department of Biochemistry, Imperial College of Science, Technology and Medicine, London, United Kingdom.

Infection and immunity (UNITED STATES) May 1994, 62 (5) p1835-42, ISSN 0019-9567 Journal Code: GO7

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9408

Subfile: INDEX MEDICUS

Surface proteins called intimins (Int), which are homologous to the invasin protein (Inv) of Yersinia spp., play a role in inducing brush border damage, termed attachment and effacement, which follows infection by enteropathogenic and enterohemorrhagic Escherichia coli, Citrobacter freundii biotype 4280, and Hafnia alvei. Maltose-binding protein (MBP) fusions containing the C-terminal 280 amino acids of Int-like proteins of strains of enteropathogenic E. coli, enterohemorrhagic E. coli, H. alvei, and C. freundii biotype 4280 and of Yersinia pseudotuberculosis Inv were constructed and purified. The 3' end of the gene for the H. alvei Int-like protein was sequenced and showed homology to corresponding regions of other Int-encoding genes. Binding of MBP-Int-like and MBP-Inv fusion proteins to HEp-2 cells was demonstrated by immunofluorescence microscopy and by fluorescence-activated cell sorting. MBP-Inv induced attachment and spreading of HEp-2 cells to plastic-coated wells, but MBP-Int-like fusion proteins did not. Preincubation of HEp-2 cells with MBP-Inv, but not with MBP-Int-like fusion proteins, inhibited MBP-Inv-induced cell attachment. Fixed staphylococci and fluorescent polymer microspheres coated with both MBP-Int-like and MBP-Inv fusion proteins showed enhanced adhesion to HEp-2 cells. These fusion proteins will facilitate studies of the role of intimin in the pathogenesis of diarrhea associated with members of the family Enterobacteriaeceae that induce attachment and effacement.

Tags: Comparative Study; Support, Non-U.S. Gov't